

## MULTI-CIRCULAR FLUX MOTOR

### *ABSTRACT*

An invention is a new type of motor, a multi-circular flux motor. The invention has simple structure and comprises of a salient pole rotor and the silent pole stator. The stator pole is subdivided into plural teeth with the individual winding. A group of windings of each stator pole is connected in either series or parallel and is driven by one excitation phase. The movement of the invention uses multi-circular flux loops to produce reluctance torque to make the rotor moves. The multi-circular flux loops comprise of a series of flux loops that every flux loop is inversely rotation direction to each other adjacent. The invention can apply in a linear and rotating machine. By having plural winding poles and phases, the invention can be a poly-phase machine. The invention can be designed to be any number of poles and phases because all flux loops are separated. The invention is applied in both AC and DC machine and both linear and rotating machine. The rotor core can be replaced with a lightweight material or hollowed out to be a lightweight rotor. The invention can be designed to be a toothless-stator or toothless-rotor machine.